REMARKS

By this amendment, claims 1 and 39 have been amended, and claims 16 and 54 have been canceled without prejudice or disclaimer. Accordingly, claims 1-4, 8-15, 39-41, 43-45, and 47-53 are currently pending in the application, of which claims 1 and 39 are independent.

Applicant respectfully submits that the above amendments do not add new matter to the application and are fully supported by the specification.

Applicant requests reconsideration and timely withdrawal of the pending rejections for the reasons discussed below.

Rejections Under 35 U.S.C. § 103

Claims 1-4, 8, 14, 39-41, 45-49, and 52 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 6,389,473 issued to Carmel, *et al.* ("Carmel") in view of U.S. Patent No. 5,956,321 issued to Yao, *et al.* ("Yao").

Claims 15 and 53 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Carmel in view of Yao, further in view of U.S. Patent Application Publication No. 2002/0004846 applied for by Garcia-Luna-Aceves, *et al.* ("Garcia-Luna-Aceves").

Claims 10-12 and 43-45 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Carmel in view of Yao, further in view of U.S. Patent No. 6,445,679 issued to Taniguchi, *et al.* ("Taniguchi").

Applicant respectfully traverses this rejection for at least the following reasons.

To establish an obviousness rejection under 35 U.S.C. § 103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. *Graham v. John Deere*, 383 U.S. I, 17-18 (1966).

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In view of these four factors, the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and should "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. *KSR Int'l. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 82 USPQ2d 1385, 1396 (2007). The Federal Circuit requires that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

Finally, even if the prior art may be combined, there must be a reasonable expectation of success, and the reference or references, when combined, must disclose or suggest every claimed feature. *See in re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The Office Action fails to establish a *prima facie* case of obviousness of cancelled claims 16 and 54 (now incorporated into amended independent claims 1 and 39) at least because even if combined, Carmel and Yao fail to disclose or suggest every claimed feature. Claim 1 recites, among other things:

> monitoring state information of nodes which are not transmitting data
> among nodes where connection is established; and

> redistributing sub blocks to be downloaded between some of the nodes
> which are transmitting data and some of the nodes which are not transmitting
> data (emphasis added).

The Applicant respectfully states that Carmel fails to teach or suggest at least these features of claim 1.

Carmel's method does not monitor state information of nodes which are not transmitting data among nodes where connection is established nor does it redistribute sub blocks to be downloaded between some of the nodes which are transmitting data and some of the nodes which are not transmitting data. The Final Office Action (see page 5), dated December 2, 2009,

cites Fig. 9 and column 9, lines 22-27 in Carmel as disclosing "[m]onitoring state information of nodes which are not transmitting data among nodes where connection is established…and redistributing sub blocks to be downloaded between some of the nodes which are transmitting data and some of the nodes which are not transmitting data." However, these cited portions of Carmel simply disclose wherein a computer measures a slice transmission time T_{SL} that corresponds to the time required to transmit the entire file to the server (column 12, line 61 – column 13, line 6) and wherein each link may be generally routed differently from the other links, over a different telephonic line and/or through different Internet nodes (column 9, lines 21-27). Neither of these excerpts, nor anywhere else in Carmel, discloses "monitoring state information of nodes which are not transmitting data among nodes where connection is established" or "redistributing sub blocks to be downloaded between some of the nodes which are transmitting data and some of the nodes which are not transmitting data."

In addition, the Final Office Action (dated December 2, 2009) and the Advisory Action misinterpret Carmel and the features of Applicant's claim 1. The Final Office Action cites column 7, lines 25-30 as allegedly teaching the concept of "dividing the first block of said streaming data into a plurality of sub bocks," column 9, lines 28-30 as allegedly teaching "sending a request for at least one of said sub blocks…to download the sub blocks, column 10, lines 10-14 as allegedly disclosing "receiving said sub blocks," and Figure 8, column 12, lines 24-26 as allegedly disclosing "the step of sending a request, the step of monitoring download state and the step of redistributing said sub blocks are repeated for downloading sub blocks…" (Office Action, p. 3). The Advisory Action cites column 3, lines 30-40 as "dividing data streams into a sequence of time slices for individual download of each slice at a predefined data rate upon being transmitted to the specified recipient."

However, these portions of Carmel only disclose a method where the data stream is divided into a sequence of segments or slices of data, and each slice of data may be assigned a

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respective slice index. Carmel teaches the division of a data stream into slices and the inclusion of the slice indices in the data stream to be used by the clients in maintaining synchronization that allows a broadcast to go on substantially in real time. Carmel does not disclose wherein the slices are further divided into sub slices (or dividing streaming blocks of data into a plurality of sub blocks), which is a feature of claim 1: "dividing the first block of said streaming data into a plurality of sub blocks." Rather, Carmel only discloses a data stream where each slice contains a segment of video and/or audio data, corresponding to a respective, successive time interval. Nowhere in Carmel does it lend itself to dividing a first block of the streaming data into a plurality of sub blocks. Accordingly, Carmel does not teach the division of a block of streaming data into a plurality of sub blocks, much less wherein the step of sending a request, the step of monitoring download state, and the step of redistributing said sub blocks are repeated for downloading sub blocks included in the second block when download of all sub blocks included in the first block is completed, as recited in independent claim 1.

Furthermore, Yao does not cure the deficiencies of Carmel. Yao appears to only describe a stream scheduling method for allocating a time-slot for reading data blocks constituting real time stream data, each real time stream data being stored in a data memory device as a plurality of data blocks, storing a reference time slot for defining a transfer timing, and reallocating a time slot for a reading of another real time stream data. Yao fails to disclose dividing a first block of the streaming data into a plurality of sub blocks.

Accordingly, even if Carmel were properly combinable with Yao (which it is not), the combination would still fail to teach or suggest all the features of claim 1.

Claim 39 has similar features as claim 1. Thus, the Office action also fails to establish a *prima facie* case of obviousness of claim 39 for at least the reasons noted above with regard to claim 1.

Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. § 103(a)

rejection of claims 1 and 39. Claims 2-4, 8, and 14 depend from claim 1 and claims 40, 41, 45-

49, 52, and 53 depend from claim 39 and are allowable at least for this reason. Since none of

the other prior art of record, whether taken alone or in any combination, discloses or suggests

all the features of the claimed invention, Applicant respectfully submits that independent claims

1 and 39 and all the claims that depend therefrom, are allowable.

CONCLUSION

Applicant believes that a full and complete response has been made to the pending Office Action and respectfully submits that all of the stated objections and grounds for rejection have been overcome or rendered moot. Accordingly, Applicant respectfully submits that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicant's undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

/hae-chan park/

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